

### **Abstract of the Disclosure**

An apparatus and method for non-destructive inspection of materials housed in containers (16) involves orienting an X-ray beam emitter (10) and detector (14) to direct and detect an X-ray beam (12) at an angle (34) lying in a range of from 8° to 20° to a conveying direction (22) of a conveyor (18) along which the materials are conveyed. The beam angle to the conveying direction works best between 8° and 12°, with an optimum being at approximately 10°. This arrangement de-emphasizes the leading and trailing edges of the containers while not substantially changing the image from that of a perpendicular beam, so that the detector images are still relatively easy to analyze. Thus, a one-detector system is adequate in many cases.